

increased from 0 to 6. As mental **workload** increases the hemispheres appear to become coupled into a general system in support of lateralized...

4/3,K/7 (Item 3 from file: 35)  
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01160191 ORDER NO: AAD91-15365

**THE EFFECT OF WORK LOAD HISTORY ON OPERATIONAL ERRORS IN AIR TRAFFIC CONTROL SIMULATION: THE HYSTERESIS EFFECT--EXPECTANCY PERSEVERANCE OR SHORT-TERM MEMORY OVERLOAD? (MEMORY OVERLOAD)**

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Source: VOLUME 52/01-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 553. 186 PAGES

...a continuance of the current task demands, and a NO CUE treatment. To test for **STM** overload, participants experienced either a high to low, moderate to low, or continuous high **workload** session. A session rose to either a high or moderate **workload**, remained at that level for 20 minutes and then decreased sharply to low **workload**. Operational errors were recorded and categorized using a taxonomy of Handoff, Keying, Navigational, Pilot and...

...the perseverance of expectancies hypothesis and the results for Memory errors provides support for the **STM** overload hypothesis.

4/3,K/8 (Item 4 from file: 35)  
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01130347 ORDER NO: AAD90-32504

**EFFECTS OF STIMULUS CLASS ON SHORT-TERM MEMORY WORKLOAD IN COMPLEX INFORMATION DISPLAY FORMATS (INFORMATION DISPLAY, COGNITIVE WORKLOAD)**

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PAGE 3071. 178 PAGES

...research effort was to identify opportunities and demonstrate methods to reduce aircraft crew member cognitive **workload** (CWL) by reducing short-term memory (**STM**) demand. Two experiments qualitatively and quantitatively compared memory loading as a function of stimulus class ...

...employed a dual-task paradigm where the primary task was compensatory tracking used to load **STM** and the secondary task was item recognition using the Sternberg paradigm. Experiment 2 employed a...  
...items in the Sternberg task. Recognition latency and error rate served as objective measures of **STM** performance while the Subjective **Workload** Assessment Technique (SWAT) was employed as a subjective second measure. Root Mean Square error was...

...words, and geometrical shapes could also be utilized as MSET items in short-term memory **workload** investigations. This research has, more importantly, provided further support for the vital link between **STM** demand and perceived **workload**.

The main conclusion of this research is that stimulus class optimization can be a feasible...